

Design Standards

- Most standards are based on safety and mobility concerns and getting the optimized benefit from the project at the least cost possible.
- There are standard designs for elements that are common to most state highways
- Create a uniformity in design procedure and in final appearance

Deviations and Upgrades

Definition: Items that are designed and built either less than standard, or above standard.

Justification: At least 2 of the following –

- Accident history or potential
- Benefit/Cost analysis
- Engineering Judgment
- Environmental Issues
- Route Continuity

Determining which Design Standards apply:

- What type of Highway System is SR 161 (Interstate, NHS or Non-NHS)?
- What kind of project are we planning (Improvement, or Preservation)?
- Is it a Rural or Urban Route?



WSDOT Design Standards for an Improvement Project on a Non-NHS Rural State Route

Standard Elements:	Alignment		Cross-Section			Roadside			Bridges	Intersections	
	Horizontal Alignment (Curves)	Vertical Alignment (Hills)	Lane Width	Shldr Width	Median Width	Fill/ Ditch Slopes	Clear Zone	Illumination	Structural Capacity & width	Angle (deg)	Sight Distance
Standard Range:	the right combo of speed & sight distance to provide the needed reaction time to stop on curves and hills		11 to 12 ft.	2 to 6 ft.	0 to 4 ft. or more	2-4(H):1(V) (minimum)	10 to 29 ft.	Minimum Required Illumination: Intersections w/ left turn channelization or traffic signals, Transit stops within limited access boundaries, Midblock Pedestrian Crossings	Case-by-case	60 to 120(ex) 75 to 105(new)	300-1150 ft.
Design Criteria:	speed sight distance terrain aesthetics		ADT % Trucks	ADT # of Lanes	ADT # of lanes	clear zone	Fill/Ditch Slope ADT speed	Additional Illumination (with justification): Within City Limits (work with city), Areas with low LOS, high accident areas, intersections w/out channelization, bridges, walkways, bicycle trails	New bridge or keep the existing bridge?	type of intersection: LOS, speed, ADT, # of lanes Design Vehicle Type Speed sight distance	
								Ammount of "Activity"			
								Access Control			
								Accidents			
				bike route?	right of way	height	barrier (justify)	LOS	Bridge Rating		
						barrier (justify)	hazards		Priority List		

definitions:

NHS = National Highway System: federally designated routes that connect the interstate system and major ports or provide military and emergency access (special NHS funding available)

Rural = Population less than 5000 within city limits

Improvement Project= mobility, safety, and economic development

Preservation Project = Paving, bridge repair (taking care of what is already there)

ADT = Average Daily Traffic

LOS = Level of Service: A (best) to F (worst)

Clear Zone = area on either side of the road free of hazards

Sight Distance = How far a driver can see